

"Microbe Carriers"—The Newly Discovered

People Who Are Fountains of Germs, Scattering Disease and Death All Their Lives--And the Problem of What to Do With Them.

A VERY worthy member of a California church contributed a huge pan of baked spaghetti to a church supper, and ninety-three persons were stricken with typhoid fever. This woman had never had typhoid fever in her life. Typhoid germs lived in her, but did not infect her—she was what physicians have lately discovered and now call a "carrier."

In Germany, in England and in New York similar wholesale infections have been traced to a "carrier." At this moment the New York Board of Health has made a prisoner for the second time the famous "Typhoid Mary." Twice has this woman spread a trail of disease and death from

her cooking, although "Typhoid Mary" herself has never had typhoid. And there is no known way to find the fountain-head of these deadly germs in Mary and put an end to them.

And, besides "typhoid carriers," there are now known to be scarlet fever, diphtheria and other carriers. Any worker in a dairy, any cook or helper or dishwasher in a hotel or restaurant or steamship or dining car or your own cook may be a carrier.

The problem confronting health authorities is a difficult one. Is it possible to examine everybody who has anything to do with cooking? And when a "carrier" is found, what then? Should a "carrier" be imprisoned for life, where he or she cannot menace the health of the community?

By John B. Huber, A. M., M. D.

SOME ten years ago a new one—if we may use a sporting expression—was put over on the science of preventive medicine. This was the typhoid carrier—a person who may or may not have had typhoid fever; a person, indeed, apparently in perfect health, who could harbor the germs of typhoid fever and infect other people with them. For example:

A baker's apprentice—this was in southwest Germany—died of typhoid fever. Then the doctor set to figuring out how this patient had got his fever. Here we must understand that typhoid is, like cholera and dysentery, an "ingestion infection"—that is, the only way you can get typhoid is through having swallowed and drink that has contained the typhoid germs.

Though typhoid is a general disease and affects the whole body, the main parts affected are the digestive organs and apparatus, especially the gall bladder and the intestines, in which the germs multiply and from which the germs called also the typhoid bacilli are emitted.

Well, on investigation, it was found that this baker's wife had typhoid some years before, since which illness practically every one of that baker's apprentices had come down with "some kind of digestive disturbance" soon after his apprenticeship began. An examination of the baker's wife—all this was, of course, several years after she had had typhoid—by the health authorities resulted in the discovery that

she was a typhoid fever carrier. That is, although healthy, enormous colonies of typhoid bacilli were constantly developing in her body. The baker's wife, however, would not take the simple precautions the doctors directed. She declared that the apprentices had been taken ill because she fed them with too rich food.

It is by such perversity that stupid people claim they have the right and title to be a menace to the rest of the community. It has been well said about such people that "a rogue is always much easier to deal with than a fool." It was so simple—the advice which this malign woman would not take. Simply to keep her hands clean, and especially before handling food that others would have to eat. Soon after her examination a tenant in her house died, also of typhoid fever, and later another case was attributed to her. Three victims, not counting those apprentices who had suffered from "too high living," and all because this woman refused to keep her hands clean.

In another instance four cases of typhoid were traced to a typhoid carrier who had had the disease forty years before. Think of it! Forty years before! Then there was the manager of an estate who was found to be a typhoid carrier. This man had suffered from typhoid ten years before. And during those ten years there had been sixteen cases of the disease on or near the estate. It was practically certain this manager had been the source of those cases.

Many milk-borne typhoid cases are due to typhoid bacilli carriers engaged in dairying—people working in that chain which has so many hidden links in its course, from the cow, through the dairy, the milk train, the city handlers, the domestics, to the consumer's lips. As for instance: A number of typhoid cases occurred among employees at a particular dairy and among the consumers of that dairy's milk. Fourteen of those people were found to be typhoid carriers. One of them, a woman employee at the dairy, had had typhoid seventeen years before. Here was evidently the origin of the whole trouble. Drs. Bolduan and Noble, of the New York City Health Department, some three years ago discovered a typhoid carrier of forty-six years standing to whom a large outbreak in milk-borne typhoid fever was traced.

Hundreds of like cases have since been found, in both sexes, in many institutions, in many communities.

More Women Than Men Typhoid Carriers

More women than men typhoid carriers have been traced. Possibly there are not really more women thus affected. It may be there only appear to be more, because the chief danger of such infection lies in handling foodstuffs, as by cooks and waitresses. Besides, women are more prone to gallstone diseases, and the gall bladder has been found the chief factory of typhoid germ production in the human body, although other parts of the digestive canal manufacture them. Thus recently a woman typhoid carrier submitted to have her gall bladder operated on, and no typhoid germs were found in that organ, and yet she was a carrier of virulent typhoid germs. The German doctors, who are permitted by their Government to be much more thorough than we are, found that of 456 female typhoid carriers 314 were hausfrauen (persons who handle food, cooks, boarding house keepers and so on), while fifty-six were domestic servants.

The classical case is that of the far famed Typhoid Mary, whose case became prominent several years ago, when she sued the New York City Department of Health, which had her confined for three years on North Brother Island. Her suit was unsuccessful. She was then forty years old. And

she then declared she had never had typhoid fever or any other dangerous disease.

Typhoid Mary's case, the Health Department found, went back to 1906, when there occurred an alarming spread of typhoid at Oyster Bay. Six out of eleven members of a family where Mary was cook had been stricken with this very serious disease. Dr. Soper, for the Health Department, made a very thorough investigation, which we cannot detail here, until he focused his scientific eye on the fact that the family had changed cooks about three weeks before the fever began. Then he investigated Mary Mallon's record, and found that she had been employed in a home where there had been four members of the family and seven servants, and that within a month of Mary's taking charge of the kitchen four of the servants were ill with typhoid. In 1902 Mary was blessing, in the same way, a family of nine at Dark Harbor, Me. Of these nine seven very shortly became typhoid cases. In all, though Dr. Soper traced but fragments of her history during ten years, he laid at her kitchen door twenty-six typhoid fever cases.

"Typhoid Mary" Would Not Listen to Reason

Mary was then, probably still is, a robust woman, weighed 150 pounds and it took five policemen to get her to North Brother Island. After three years she was released on her promise that she would not again take a place as a cook. She did not keep the promise, and is now again under observation after having caused an epidemic in a charitable institution where she had been hired as a cook. The trouble with her was she would not listen to reason any more than would that baker's wife. There are those who say, and with considerable justice, that she should never have been freed until she was proved to be no longer a menace, no matter how many years that would have taken.

"Typhoid Mary" was an ignorant woman, but there are plenty of well educated, highly intellectual people who, when it comes down to it, have no more sense than she showed.

It has been estimated that from 4 per cent up of typhoid fever sufferers continue to shed the typhoid bacilli for indeterminate periods. And there are others who shed those germs who don't appear to have had this infection; say they have not had it; certainly have not been abed on that account.

First—The doctors make three classes of typhoid carriers. The acute carriers, who have had the disease and continue to discharge the germs no longer than six weeks after convalescence—that is, after complete recovery.

Second, the chronic carriers, who may or may not have had the disease, but who keep on discharging the germs indefinitely. Those who have not had the disease are called the symptomless cases, and they are called intermediate carriers, or, as the German doctors say—take a long breath here—the Typhusbacillienwirtschafter.

And, third, there are the temporary carriers, who have never had typhoid at all, or who may have, perhaps, been "walking cases," but who discharge the germs for a short period, then are free of them for a time and then again shed them. It has been computed that something like one in every thousand of us is a typhoid carrier, whether we have had the disease or not.

Obviously, then, it is a difficult proposition to prevent the spread of typhoid fever by the typhoid bacillus carriers. Surgery, as we have seen, does not avail, because other parts of the digestive tract than the gall bladder may contain the germs, and one cannot have the whole of his internal organs removed and live. Investigators with bacterial vaccines have had some fair results, but far from good enough for such means to be successfully or universally applied.

There remains then the expedient of segregating the typhoid carrier, as is done in the case of leprosy—and, indeed, the carrier is more of a menace than the leper—or, what in effect would be the same thing, to force him into constant cleanliness or to restrict his occupation in such a way as to bring his harm-making down to a minimum. This last expedient, as will be seen later, is already in force in some districts. Against the efficacy of the segregation idea there can be nothing urged. The great obstacle to carrying it out is, of course, a sentimental one, if we choose to so designate the well nigh universal feeling that causes

for isolation of a man from his kind ought not to be lightly multiplied. Such segregation would be for most carriers solitary imprisonment for life.

But it would not be necessary to confine typhoid carriers if they would only understand and observe the simple precautions they should take in order that the health and lives of others shall not be endangered by them. The activities of typhoid carriers must be so restricted that they shall neither infect food nor their surroundings. In essence, all they have to do is to be careful about their

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cleanliness. They must, whenever possible in a doctor will give all wash the hands so and how properly to

The chief problem of the carriers, so as to This does not need measles or scarlet given time—a fortnight no longer a menace.

Health Department to Segregate

According to a report of the Health Department of Health, any disease germs of typhoid fever and other contagious diseases to the special rules of the department of Health.

And anybody can see this disease carrier, but following is quoted from authoritative book, "Health": "The legal of the community as against some considerable question is not properly quarantined discharges are permitted (disinfection), and to no consideration if he receive infection from a carrier to be sterilized.

As we have seen with are three kinds of chronic and the temporary carriers would be dangerous natural history ever, we can in general carriers are people who disease and who discharge after convalescence; the harbor and to discharge or years, in fact, infectious are those in good charge germs for brief, with periods when they And there are "am dysentery—dangerous are so likely to spread let fever, diphtheria and cases, be so mild as to may not themselves reach school, ride in the street, peering, at the desk, in keep at their usual work handle our food. And it one of the most difficult tasks.

Why do not all these diseases whose germs infection no doubt occurred discussing typhoid fever takes two people to make agencies to make an germ; second, the way that predisposes our organs of the germ. If your good health you may not germs in your system. germs of which you you may carry these being run down, succumb same germs. Your food these germs; your neighbor since it has been so seriously or unconsciously many practical difficulties only be detected by patients. And then, when the question of control. Fortunately, in most necessary. "Sanitary to say, it is enough to they are obeying instructions and are reasonably of giving disease to the keep scrupulously and the us who have the civic an enormous deal by health authorities.



"These 'Microbe Carriers,' Almost Always Perfectly Healthy Themselves, Exist by Hundreds. They Are Most Dangerous When They Prepare Food. It Is Then That They Unwittingly 'Season' with the Germs of Deadly Disease—Dropping, Indeed, Death into the Cooking Vessels."